NEWCON™ OPTIK

Operation Manual

LRB 4000CI

LASER RANGE FINDER BINOCULARS

NSN: 1240-20-001-9644

105 Sparks Ave., Toronto, ON M2H 2S5, Canada

IMPORTANT INFORMATION

Read prior to activation

You have just purchased a sophisticated electro-optical device that emits invisible laser radiation. To operate it properly, please read this manual carefully.

- **NEVER** direct laser beam at the eyes of people or animals
- **NEVER** aim the unit at the Sun or bright sources of light
- **NEVER** subject the unit to impacts
- **NEVER** transport the unit without its case
- **NEVER** disassemble the unit. This may be hazardous for you due to high voltage currents in the system
- **ALWAYS** keep the unit out of children's reach
- **ALWAYS** remove the battery when the device is not in use for a long period
- **ALWAYS** store in a dry place
- **Caution** - use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure
- **Caution** - use of optical instruments such as binoculars, loupes, mirrors, lenses, etc. with this product increases eye hazard
- **Note**: Avoid eye exposure to direct laser beam or its close reflection
- **Prevent** bright light from focusing through the eyepieces

TABLE OF CONTENTS

1. BRIEF DESCRIPTION 2
2. DEVICE APPEARANCE 3
3. DELIVERY SET 4
4. SPECIFICATIONS 5
5. OPERATION INSTRUCTIONS 6
    - 5.1. Installing the battery 6
    - 5.2. Measurement procedure 7
    - 5.3. Maximum distance 7
    - 5.4. Target selection logic 8
    - 5.5. Individual Measurement and Scanning regimes 8
    - 5.6. Operation and service modes 9
    - 5.7. Mode switching and tuning 9
    - 5.8. Setup mode 10
    - 5.9. Compass calibration 12
    - 5.10. Setting interface format 13
    - 5.11. Gating mode 13
    - 5.12. Data Recall mode 13
    - 5.13. Display test mode 14
    - 5.14. Additional display information 14
    - 5.15. Computer interconnectivity 15
    - 5.16. GPS interconnectivity 15
    - 5.17. Short mode switching scheme 16
    - 5.18. Remote control module 16
6. BEST MEASURING TECHNIQUE 17
7. STORAGE AND MAINTENANCE 17
8. TROUBLESHOOTING 18
9. WARRANTY 18
10. CUSTOMER SUPPORT 19
11. QUALITY CERTIFICATE 20

CAREFULLY READ ALL THE INSTRUCTIONS PRIOR TO USE!

FAILURE TO OBEY THE INSTRUCTIONS WILL VOID THE WARRANTY AND MAY CAUSE INJURY!

1. BRIEF DESCRIPTION

LRB 4000CI Laser Rangefinder Binoculars (System) is an advanced laser range finder system that enables instant distance, speed, vertical and horizontal angular measurements. An outstanding optics provides a sharp, clear image under any observation conditions.

The unit utilises time-of-flight method of distance and speed measurement. The System sends invisible, eye safe laser pulses to the target. The returned pulses are captured by the digital circuitry. The time difference is used to calculate the distance to the target. A built-in digital compass measures an angle between the optical axis and direction to the magnetic North Pole.

The unit complies with CFR 21, Part 1040.10 and Part 1040.11.

A built-in inclinometer allows elevation angle measurements and height (depth) calculations.

Key Features of the LRB 4000CI Laser Rangefinder Binoculars

- Modern digital circuitry allows targeting through most types of glass
- First, last or the most reflective target acquisition
- Meters/Yards/Mils/Degrees/KMH/MPH display
- Last 10 measurements recall
- Selectable reticle shape (+ or □)
- Target quality indicator
- Gating capability
- Speed detector
- Accurate digital compass
- Accurate digital inclinometer
- RS-232 port
- GPS interoperability (PLGR/DAGR protocol)

2. DEVICE APPEARANCE

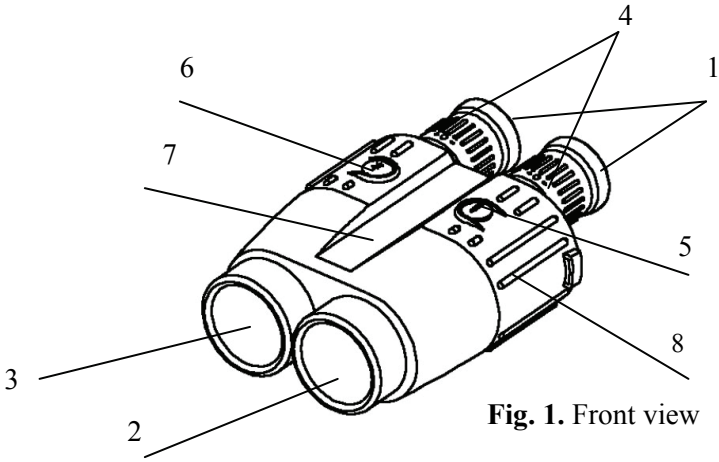

Fig. 1. Front view

1 – Eyepieces
2 – Objective / receiving lens
3 – Objective / emitting lens
4 – Dioptric adjustment rings
5 – Mode button
6 – Action button
7 – Body of the device
8 – Rubber grip

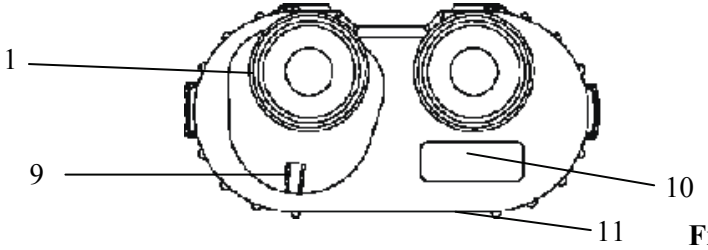

Fig. 2 Rear view

1 – Eyepiece
9 – Interpupillary distance adjustment lever
10 – Model number plate / battery compartment cover
11 – Identification and certification label (at the bottom):

CE Patent Pending
Newcon Optik

105 SPARKS AVE. TORONTO, ON CANADA M2H 2S5
THIS PRODUCT COMPLIES WITH CFR 21 1040.10 1040.11

MADE IN CANADA

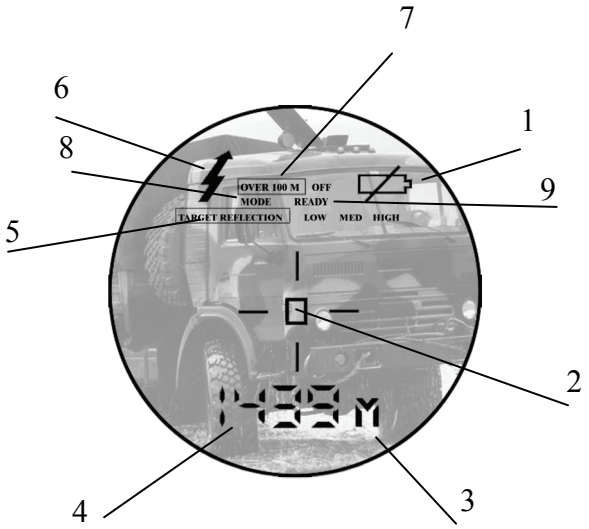

Fig. 3. Liquid Crystal Display (LCD)

1 – Low battery indicator
2 – Reticle (either -┼- or □)
3 – Units of measurement
4 – Measurement result
5 – Target quality indicator
6 – Laser active indicator
7 – Gating indicator
8 – Setup mode indicator
9 – Ready mode indicator

3. DELIVERY SET

Standard delivery set for LRB 4000CI includes:

	Qty
LRB 4000CI	1 pc.
Carrying case	1 pc.
Neck strap	1 pc.
User's manual	1 pc.
Warranty card	1 pc.
Computer cable	1 pc.
Compact disk with software	1 pc.
Hard case	1 pc.
9V non-magnetic Lithium battery	1 pc.

Optional items

Remote control module

GPS cable

Exact delivery set depends on details of a contract or purchase order.

4. SPECIFICATIONS

Optics

Magnification	7x
Objective lens diameter	50 mm
Exit pupil diameter	7.1 mm
Field of view	5°
Type of coating	Fully multi-coated optics
Interpupillary distance	58-72 mm
Dioptre adjustment range	±4

Range Finder

Laser	Class 1, eye safe, 905 nm
Measuring range	20 – 4,000 m
Accuracy	±1 m
First, last and auto target selection	Yes
Meters / Yards display	Yes
Last 10 measurements recall	Yes
Reticle	-┆- or □
Target quality indicator	Yes
Gating capability	100 - 7,000 m; 100 m step

Speed Detection

Measured speed range	5-400 km/h or 3-250 mph
Accuracy	± 1 km/h or mph

Compass

Measured azimuth range	6400 mils /360°
Accuracy	±1°

Inclinometer

Measured elevation range	±60°
Accuracy	±1°
Height measuring	Present

Power

Battery	9V Lithium (non-magnetic)
Battery capacity	Min 5,000 measurements (Scanning regime)
'Low Battery' indicator	Yes

Environmental

Operational temperature range	-25…+50°C (-13…+122°F)
Storage temperature range	-45…+65°C (-49…+149°F)

Mechanics

Tripod thread	¼" x 20 TPI
Weight without battery	1.3kg
Weight with hard case	3.5 kg
Dimensions	210x150x60 mm

5. OPERATION INSTRUCTIONS

Installing the battery

- Unscrew the screw and open the battery compartment
- Connect a battery to the battery snap
- Hook the farther from the screw edge of the battery compartment cover over the edge of the battery compartment, close the cover and tighten the screw.

If the battery compartment cover does not close tightly and evenly check that the battery snap wires are neatly packed inside the battery compartment and the cover is hooked over the edge of the battery compartment.

Note: To ensure compass accuracy calibrate compass after changing the battery (see *Compass calibration* below for details).

Note: Battery in metal casing will diminish compass accuracy. Non-magnetic batteries should be used for the utmost compass performance.

The unit is fully operational when battery voltage is higher than 6.3V. A '**LOW BATTERY'** warning is displayed when battery voltage falls below 6.5V.

Measurement procedure

When the Rangefinder is off the LCD is blank. To activate it, press and hold for one second A button (6, Fig.1). At start the unit comes into Ready to Measure mode indicated by the word 'READY' on the display visible through the eyepiece.

Pressing A button (6, Fig. 1) in *Ready to Measure* mode initiates measurement procedure. The result of measurement is displayed in a form that depends on the measurement parameters (see Setup Mode).

If results of measurement are unreliable four dashes ('----') will be displayed in the area (4, Fig. 3). For successful measurement the target must be at least 20 m away.

If more than one parameter is chosen to measure, e.g. distance and azimuth, the results will replace each other on the display every half a second.

If the target is located below the unit the result of vertical measurement (elevation or height) will be preceded with minus ("-") sign.

If results of angular measurements can not be interpreted by the unit an error codes 444 (for azimuth) or 99 (for elevation) will be displayed. Repeat the measurement. If error codes appear again – reboot the unit by switching it off and on again.

Maximum distance

Though maximum measurement distance depends on target reflectivity, weather and other conditions, for most targets the unit will provide accurate ranging for up to 2,000 meters. In good conditions highly reflective target can be measured up to 2,500 meters.

Target reflectivity depends on its color, surface finish, size, shape, position in relation to the laser beam, etc. Bright target colors are more reflective than darks. A polished surface is more reflective than a rough one. Larger targets reflect better than small ones. Ranging a target perpendicular to the laser beam provides better results than the one positioned at a sharp angle to the beam.

Weather conditions that influence air transparency (rain, fog, snow, mist) reduce maximum range. Bright sunny days will reduce performance as well as IR sun radiation may cover reflected laser impulses.

While the unit will measure through many glass types, measuring through glass may reduce accuracy.

Natural hand tremor decreases the accuracy of long distance ranging. Using of a tripod is highly recommended.

Target selection logic

On its way towards the target the laser beam may be reflected from various objects, thus decreasing ranging accuracy. The smaller, the farther, and the less reflective is the target – the higher is the possibility of obtaining an incorrect measurement.

To improve accuracy the unit has a built-in target selection logic that allows choosing which target to range: the nearest ('first'), the farthest ('last'), or the most reflective ('auto').

This mechanism helps selecting the target when ranging from behind the bushes, wires, through the falling snow, or in similar conditions. Furthermore, it enables ranging a target in front of a bigger object, such as a wire in front of the wall.

Note: Even with target selection logic the unit may not always be able to range the desired target as its reflectivity may be too low to produce enough laser beam reflections for statistically reliable calculation. A warning will be displayed if result is not statistically reliable. See more about target reflectivity in *Additional display information*.

Individual Measurement and Scanning regimes

The unit can operate in two regimes: (1) *Individual Measurement* and (2) *Scanning*. In *Individual Measurement* regime the unit performs single measurement when A button is pressed shortly, in *Scanning* regime the unit repeatedly measures and displays results every second while A button is pressed.

To activate *Scanning* regime press and hold A button in Ready mode. The unit will work in *Scanning* regime while A button is pressed.

Scanning or *Individual Measurement* regimes are available for any selected mode of measurement. When two parameters are measured in *Scanning* regime though both will be quickly displayed, the second one may be difficult to register by eye. Nevertheless all data is recorded and may be recalled (see *Data Recall mode* for details.)

Operation and service modes

The unit has the following modes of operation:

- **Ready to Measure** – to perform measurements

  (Quick link to **Standard1** and **Standard2** sets of measurement parameters appears in mode selection menu for convenience and does not constitute a separate mode)
- **Setup** – to modify the *Ready to Measure* mode parameters,
- **Gating** – to set a minimum distance of measurement
- **Data Recall** – to recall the last 10 measurement results,
- **Data Clearance –** to clear all measurement results.

In *Setup* mode four parameters of measurement can be set; these parameters define:

1. What the unit measures: distance or azimuth or both
2. In what units the result of distance measurement is displayed: meters or yards, degrees
3. What reticle shape is visible: rectangular or crosshair, and
4. Which target is selected: first, last or most reflective (see *Target selection logic* for more details.)

Setup mode is described in more detail below.

The unit has two standard sets of *Ready to Measure* mode parameters:

- **Standard1**: distance is displayed in meters, azimuth and elevation are displayed in degrees, crosshair reticle is visible, auto target selection is used,
- **Standard2**: distance is displayed in meters, azimuth and elevation are displayed in mils, crosshair reticle is visible, auto target selection is used,
- **Code 8** sets the same set of measurement parameters as Standard1, except for distance measurement reading is given in yards.

At start the unit assumes *Ready to Measure* mode with measurement parameters inherited from the previous setup. At manufacturing stage the unit is set up into Standard1 set of measuring parameters.

Mode switching and tuning

Pressing M button (3, Fig.1) in *Ready to Measure* mode switches the unit between modes of operation:

- *Ready to Measure* – **Ready** (9, Fig. 3)is displayed

- Quick link to Standard1 set of measurement parameters (display name: **Std1**),
- Quick link to Standard2 set of measurement parameters (display name: **Std2**),
- *Setup* mode (display name: **COdE**),
- *Gating selection* mode (display name: **GAt**),
- *Data Recall* mode (display name: **rEc**),
- *Memory Clearance* mode (display name: **cLr**),
- *Interface selection* mode (display name: **PLGr or-PC-**).

Flashing display name indicates the mode which can be selected by pressing A button (4).

Setup, Gating selection, Data Recall and *Interface selection* modes have submenus, so when A button is pressed to select these modes the unit automatically enters the corresponding submenu. In the same way as with the mode switching, M button switches between submenu items and A selects the needed one. When A button is pressed from the submenu the unit comes into *Ready to Measure* mode with the selected parameter.

If no button is pressed for 8 seconds the unit leaves the current mode, in *Ready* mode it switches off. Next time the unit is turned on it assumes the last chosen combination of the four *Ready to Measure* mode parameters.

Note: On a special request menu of a particular unit can be simplified to show only required modes.

Setup mode

To modify the four *Ready to Measure* mode parameters:

- Enter Setup mode.

  With word *Ready* on the display press M button till display name COdE is displayed and press A button.
- Select the desired parameter modification (see table below).

  Press M button till the code name of the desired parameter is displayed and press A button.

Mode	Display name	Distance	Speed	Azimuth	Elevation	Reticle	Target selection logic
Ready to Measure	**Ready**	As set at previous session					
Standard1	**Std** 1	m		Deg	Deg	-¦-	Auto
Standard2	**Std** 2	yd		Mils	Mils	-¦-	Auto
Setup	**COdE**	Entrance into Setup mode					
	Cd1 **M**	m				NC	
	Cd2 **Y**	yd				NC	
	Cd3 **-°**			Deg		NC	
	Cd4 –			Mils		-¦-	Auto
	Cd5 – '°				Deg		
	Cd6 –'				Mil s		
	Cd7 – '				m		
	Cd8 –	yd		Deg	Deg	-¦-	Auto
	Cd9 **-¦-**	NC				-¦-	NC
	Cd 10 □	NC				□	NC
	Cd 11	NC					Last
	Cd 12	NC					First
	Cd 13	NC					Auto
	Cd 14**KMH**	NC	km/h	NC			
	Cd 15**MPH**	NC	mph	NC			
	Cd 16	Display test					
	Cd 17	Compass calibration					
Gating	GAt	Entrance into gating mode					

Mode	Display name	Distance	Speed	Azimuth	Elevation	Reticle	Target selection logic
Data Recall	**rEc**	Recalls last 10 measurement sets					
Data Clearance	**cLr**	Clears all recorded data					
Interface format	**-PC-** or **PLGr**	Selects PC or PLGR data format for output port					

Empty field means the parameter is not measured in this mode, NC means 'no change' to the measurement parameter setting.

To leave the *Setup* mode without changing measurement parameters press and hold **M** button for two seconds. This works like computer Esc key. The rangefinder will then keep the last set of parameters and return to the *Ready to Measure* mode.

Once set, the mode parameter is stored in on-board power independent memory and will be kept current until reset in *Setup* mode.

Choosing **Cd** 16 in Setup mode will cause all display segments and indicators to flash for 8 seconds. Flashing can be interrupted by pressing either button.

Compass calibration

If the System was exposed to a strong magnetic field or was not in use for a long time, the compass accuracy may diminish.

To return the compass into working condition:

- Select **Cd** 17 in *Setup* mode
- Keeping the unit horizontally, perform one full rotation around vertical axis within half a minute and then one full rotation around vertical axis with device upside down during half a minute.
- If one rotation does not restore calibration – perform two rotations.

The normal compass functioning will be restored.

Depending on the software version, during calibration you may observe either time countdown in seconds from 59 to 1 or blinking word **CAL** on the LCD.

Setting interface format

In this mode data communication standard is set. The unit can output measurement data via RS-232 port in either PC format (description of the proprietary format can be obtained from Newcon upon a request) or in the format accepted by PLGF/DALGR.

To select required data format:

- Select **PLGr** (**-PC-**) in *Setup* mode
- Pressing A button will switch between PC format and PLGR format, the display name of format that can be switched to will be shown.

Gating mode

In this mode gating function is activated: here user can set the minimal distance to the target, any object closer than the gating distance will be ignored.

To enter into gating mode press A button when GAt is displayed.

Minimal gating distance of 100 m will be initially set, further pressing M button will increase gating distance by 100 m up to 7,000 m. When the desired distance is reached – select it by pressing A button.

Gating distance can potentially be set longer than the maximum measuring range. The device will not measure anything then. To deactivate gating choose another mode (for example: Standard1, Standard2, Code1, Code2, etc.).

Note: The gating distance can only be increased. To exit the gating selection cycle without setting any gating distance click through full gating range with **M** button or hold **M** button for 2 seconds.

Gating feature helps measuring remote targets in unfavourable atmospheric and environmental conditions by eliminating reflections from snowflakes, raindrops, industrial wires, tree branches, etc. At the same time, if gating distance is set incorrectly, you can remove the desirable object from measurement range.

Data Recall mode

In *Data Recall* mode results of the last 10 measurements can be displayed.

Measurement results are saved in on-board memory in sets depending on the parameters set for measuring, for instance, if only distance is measured - the set will consist of one number, if distance and azimuth are measured – the set will consist of two numbers.

To enter *Data Recall* mode press M button in *Ready to Measure* mode until **rEc** is displayed and then press A button. First measurement set number (display name: **rEc** 1) will start flashing.

Pressing M button moves the unit along the list of measurement set numbers and measurement results:

rEc 1, distance 1, azimuth 1, elevation 1,

rEc 2, distance 2, azimuth 2, elevation 1, …,

rEc 0, distance 0, azimuth 0, elevation 0.

Measurement sets are numbered in reverse order: first recalled set is the result of the last measurement. If any parameter has not been actually measured it will not be recalled.

Pressing A button at any moment within the list of recalled results (or pressing M button at the end of the list) brings the unit to *Ready to Measure* mode.

Choosing **cLr** in *Setup* mode will erase all measurement data.

Display test mode

Entering Code 16 will cause all display segments and indicators to flash for 8 seconds.

Additional display information

Additional indication is displayed in *Ready to Measure* mode:

Y or **M**	Indicates that distance is displayed in yards or meters; azimuth may or may not be measured
KMH or **MPH**	Indicates that speed is displayed in km/h or mph
M or °	Indicates that that only azimuth is measured

OVER 100M – indicates that gating is active

Laser active indicator (6, Fig.3) flashes, when the unit emits laser radiation.

Reliability of ranging depends on the number of impulses that reflect from the target and reach the unit. The unit informs the user:

TARGET REFLECTION LOW – ranging results have low statistical reliability,

TARGET REFLECTION MED – ranging results have medium statistical reliability,

TARGET REFLECTION HIGH – ranging results have high statistical reliability.

Computer interconnectivity

The unit supports RS-232 interface. Physical connection is performed through connector with threaded coupling mechanism, designed for the heavy-duty outdoor applications.

Note: Do not apply excessive force when disconnecting cable. Damage to cable or connector resulting from improper treatment is not covered by warranty.

To attach the cable to the rangefinder match the key on the plug (1, Fig. 5) with the corresponding key on the socket and then push gently the plug holding it by its casing (3, Fig. 5) until click.

To detach the cable slide sleeve (2, Fig. 5) away from the unit and pull the plug out.

The communication port must be initiated prior to connecting the unit to the computer. The data is transmitted as hex string code with fixed baud rate of 9600 bit/sec, 8 bits, one stop bit, and no parity.

If the port is connected and not initiated, the rangefinder will be activated immediately in the scan mode, and it will lead to extensive battery drain.

Disconnect the cable when you finish working with the software.

This connector is IP67 graded.

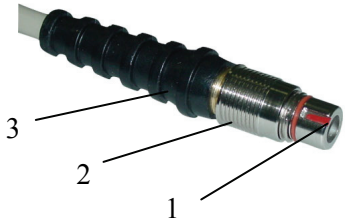

Fig. 5. Computer cable connector
1 – Key; 2 – Sleeve; 3 - Rubber casing

GPS interconnectivity

LRB 4000CI can transmit the acquired data to a GPS receiver using DB15 connector and PLGR/DAGR protocol. An optional cable is required.

To work with GPS, perform the following steps:

- Switch the rangefinder to **PLGr** mode;
- Choose either **Std1** or **Std2** measuring mode;
- Connect the rangefinder and GPS unit with the cable.

For each measurement GPS will display the absolute coordinates of your target.

Note: If the rangefinder is not set initially to **Std1**or **Std2** modes, the GPS will not operate properly.

Note: GPS unit automatically adjusts coordinates to reflect actual magnetic declination. Therefore, coordinates displayed on the GPS may differ from those calculated by the computer.

Short mode switching scheme

Upon request, your LRB 4000CI rangefinder may be manufactured with reduced functionality. This version is easier to use, and it is beneficial for users planning to work with GPS only. The short mode switching scheme does not transmit data in PC software format.

The short mode switching scheme menu comprises only 4 modes: Std1, Std2, CLbr and GAtE described above.

Note: The rangefinder can be programmed for the short or full mode switching scheme at the factory only.

Remote control module

Upon request, the unit may be furnished with a remote control module. This module is attached to the computer cable at the computer side.

The remote module enables controlling the rangefinder from computer.

The module connects rangefinder buttons to the RS-232 pins. Also, rangefinder buttons are repeated on the module.

Note: Actual remote control module may look differently from the one on the Fig. 6.

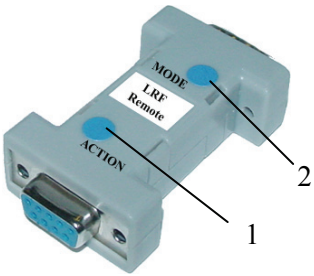

Fig. 6. Remote control module
1 – Action button;
2 – Mode button

6. BEST MEASURING TECHNIQUE

Laser range finder measures distance by catching laser beam reflected from the target. Everything that improves reflection increases the measurement reliability and maximum range.

1. Use tripod when ranging remote targets. The longer is the distance, the greater is the beam shift due to hand tremor.
2. Aim at a surface on the target that is the closest to perpendicular to the laser beam. The closer you get – the stronger will be the reflection.
3. The unit deploys sophisticated software that tries to understand which target you are aiming at. However, due to beam divergence several objects may produce a strong reflection. To help the System recognise the target the *Target Selection Logic* may be used. For example, if ranging a wire in front of a building, selecting the "first" target (Code 12) will produce a more reliable result. Alternatively, when aiming at a chimney behind the trees, selecting "last" target (Code 11) will be better. By default the System assumes "auto" target selection, that is, the object producing the most reflections will be considered a target.
4. Another way to improve reliability of measurement is to use gating mechanism. If gating is active reflections from all objects closer than the gating distance will be ignored. This is especially effective when ranging in unfavourable atmospheric conditions, that is, in the rain, fog, haze or in the bright sun. Gating provides better results than the "last" target selection, but it requires preliminary rough distance estimation to cut off all objects closer than the chosen one.

Note: Gating setting is remembered by the System until altered. Therefore, if you forget to turn the gating off, the next time you start measuring it can ignore the desired object, if it is closer than the gating distance. The unit will display four dashes instead of the measurement results. "Over 100 meters" display indicator shows active gating.

7. STORAGE AND MAINTENANCE

The unit is a sophisticated precision optical instrument equipped with laser and electronics. Therefore, it should be handled with due care.

- Keep away from direct sunlight.
- Avoid impacts, jolts, dust, moisture, and sharp changes of temperature.
- Do not use the device at temperatures higher than 50^{o}C (122^{o}F).

- Do not touch optical surfaces. Doing so may damage the anti-reflection coating.
- Clean optical surfaces only with professional camera lens cleaning supplies.
- Clean the exterior of the unit with a soft clean cloth.
- Keep the unit away from heating appliances and central heating.
- Remove the battery when storing the device for long time.
- All repair works must be performed by an authorized service.

8. TROUBLESHOOTING

Ranging does not work. The display is transparent.

Check the charge of the battery. Replace it if it is weak.

Ranging does not work. The display indicates results of the last measurement.

Wait for 8 seconds until the display becomes transparent, and press the Action button again.

Black dots are visible on LCD.

Liquid Crystal Display may have small black dots, scratches and other blemishes inherited from the manufacturing process. These flaws are strictly regulated by number, area and location and do not degrade the product's measurement capabilities.

Range measurement cannot be obtained.

- Make sure that neither your hand nor finger is blocking objective lens, laser emitting lens or receiver lens.
- Hold the unit firmly (avoid hand tremor) while pressing the Action button.
- Check that the target is within measuring range of the device and the gating mode does not cut it off.

9. WARRANTY

NEWCON warrants this product against defects in material and workmanship for one year from the date of the original purchase, but no more than 18 months from the date of manufacturing. Longer warranty is available, subject to the terms of the specific sales contract. Should your Newcon product prove to be defective during this period, please deliver the product securely packaged in its original container or an equivalent, along with the proof of the original purchase date to your Newcon Dealer.

Newcon will repair (or at its option replace with the same or comparable model), the product or part thereof, which, on inspection by Newcon, is found to be defective in materials or workmanship**.**

*What This **Warranty Does Not Cover**:*

NEWCON is not responsible for warranty service should the product fail as a result of improper maintenance, misuse, abuse, improper installation, neglect, damage caused by disasters such as fire, flooding, lightning, improper power supply, or service other than by a NEWCON Authorized Service.

Postage, insurance, and shipping costs incurred while presenting your NEWCON product for warranty service are your responsibility.

If shipping from North America please include a cheque or money order payable to NEWCON OPTIK for the amount of US$15.00 to cover handling and return shipping.

10. CUSTOMER SUPPORT

Should you experience any difficulties with your NEWCON OPTIK product, consult the enclosed manual. If the problem remains unresolved, contact our customer support department at (416) 663-6963 or toll free at 1-877-368-6666. Our operating hours are 9am-5pm, Monday - Friday, Eastern Standard Time. At no time should equipment be sent back to Newcon without following the instructions of our technical support department.

NEWCON OPTIK accepts no responsibility for unauthorized returns.

To locate NEWCON Authorized Dealer call:

Tel: (416) 663-6963 Fax: (416) 663-9065

Email: newconsales@newcon-optik.com

Web: www.newcon-optik.com

The defective products should be shipped to:

US customers:

2331 Superior Ave. Cleveland, OH 44114

all other countries:

105 Sparks Ave., Toronto, ON

M2H 2S5, CANADA

11. QUALITY CERTIFICATE

Serial number _____

The unit indicated above has passed the quality inspection.

Production date _____

Quality Inspector _____

Purchase date _____